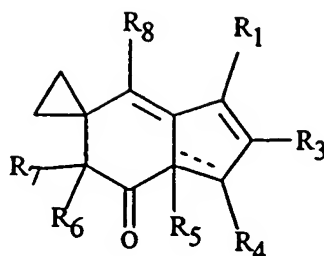


CLAIMS

1. A compound of the formula



wherein R_1 is $(CH_2)_n-X-Y$,

where n is 0 to 4;

X is O or S or N, and

Y is $-CH_2OC(O)(C_1-C_4)alkyl$, $(C_1-C_8)alkyl$ optionally substituted with 1-2 OH or 1-2 halo; a monosaccharide, $-CH_2C(O)-O-(CH_2)_2-O-C(O)CH_2SH$, $-(CH_2)_2-O-(CH_2)_2W$ where W is halo; $-(C_1-C_8)alkyl-O-(C_1-C_8)alkyl$; $(C_6-C_{10})aryl$, $(C_6-C_{10})aryl(C_1-C_4)alkyl$ or $C(O)O(C_6-C_{10})aryl$ wherein the aryl group is optionally substituted with 1-2 OH, halo, $(C_1-C_4)alkyl$, or $O(C_1-C_4)alkyl$; $-CH_2CO_2(C_1-C_4)alkyl$, $-CH_2CO_2H$, $Si((C_1-C_4)alkyl)_3$ or an amino acid residue;

R_3 is H or $(C_1-C_4)alkyl$;

R_4 is $SCH_2CO_2(C_1-C_4)alkyl$, $-S-(C_6-C_{10})aryl$ optionally substituted with halo, OH or $(C_1-C_4)alkyl$, or H;

R_5 is H, OH or absent;

R_6 is $(C_1-C_4)alkyl$ or absent;

R_7 is OH or $-O(Si((C_1-C_4)alkyl)_3)$; or

R_6 and R_7 together are ethylenedioxy;

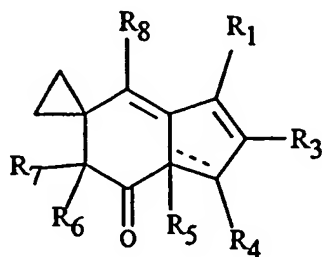
R_8 is $(C_1-C_4)alkyl$ optionally comprising OH or halo;

the bond represented by ----- is present or absent; or

a pharmaceutically acceptable salt thereof.

2. A compound of claim 1 wherein n is 1, the bond represented by ---- is present, and R₅ is absent.
3. A compound of claim 2 wherein R₃ is CH₃, R₄ is H, R₆ is CH₃, R₇ is OH and R₈ is CH₃.
4. A compound of claim 3 wherein X is O.
5. A compound of claim 4 wherein Y is CH₂OC(O)CH₃.
6. A compound of claim 4 wherein Y is (C₁-C₄)alkyl.
7. A compound of claim 6 wherein Y is -CH₂CH₃.
8. A compound of claim 4 wherein Y is a (C₁-C₈)alkyl substituted by 2 OH.
9. A compound of claim 8 wherein Y is -CH₂CH(OH)CH₂OH.
10. A compound of claim 4 wherein Y is fructose.
11. A compound of claim 4 wherein Y is -(CH₂)₂Br.
12. A compound of claim 4 wherein Y is -(CH₂)₂OH.
13. A compound of claim 4 wherein Y is -C(CH₃)₂-O-(C₁-C₄)alkyl.
14. A compound of claim 13 wherein Y is -C(CH₃)₂-O-CH₃.
15. A compound of claim 4 wherein Y is -C(O)-O-Phenyl.
16. A compound of claim 3 wherein X is S.

17. A compound of claim 16 wherein Y is phenyl substituted with OH or CH₃.
18. A compound of claim 16 wherein Y is benzyl.
19. A compound of claim 16 wherein Y is -CH₂CO₂CH₃.
20. A compound of claim 16 wherein Y is -CH₂CO₂H.
21. A compound of claim 16 wherein Y is (C₁-C₆)alkyl substituted by 2 OH.
22. A compound of claim 21 wherein Y is -CH₂CH(OH)CH₂OH.
23. A compound of claim 1 wherein n is 1, the bond represented by ---- is absent, X is S; Y is CH₂CO₂CH₃; R₃ is CH₃; R₄ is S, CO₂CH₃; R₆ is CH₃ and R₇ is OH.
24. A compound of claim 23 wherein R₅ is H.
25. A compound of claim 23 wherein R₅ is OH.
26. A compound of the formula



where R₁ is (CH₂)_n(Y);

where n is 0 to 4; and

Y is CHO, NO₂, NH₂, COOH, -(C₂-C₄)alkenyl-CHO, -CH(O(C₁-C₄)alkyl)₂, cyclo(C₃-C₆)alkyl or 5-membered heteroaryl comprising one or more heteroatoms selected from N, S, or non-peroxide O, where the cycloalkyl or heteroaryl is optionally substituted with 1-2 (C₁-C₄)alkyl, CHO, OH or halo;

R₃ is (C₁-C₄)alkyl or H;

R₄ is S, CH₂CO₂(C₁-C₄)alkyl or H;

R₅ is H, OH or absent;

R₆ is (C₁-C₄)alkyl or absent;

R₇ is OH; .

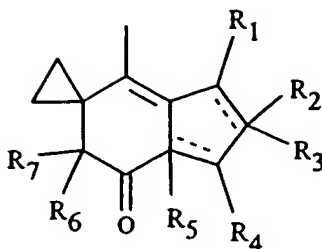
R₆ and R₇ together are ethylenedioxy;

R₈ is (C₁-C₄)alkyl optionally substituted with OH or halo; and

the bond represented by ----- is present or absent; or

a pharmaceutically acceptable salt thereof.

27. A compound of claim 26 wherein the bond represented by ----- is present.
28. A compound of claim 27 wherein R₃ is CH₃; R₄ is H; R₆ is CH₃, R₇ is OH and R₈ is CH₃.
29. A compound of claim 28 wherein n is 1.
30. A compound of claim 29 wherein Y is CHO.
31. A compound of claim 29 wherein Y is cyclohexyl.
32. A compound of claim 28 wherein n is 2 and Y is CHO.
33. A compound of claim 28 wherein n is 0 and Y is NO₂.
34. A compound of the formula



where R_1 is $(CH_2)_n(Y)$,

where n is 2 to 4;

Y is OH or OAc; and

R_2 is absent; or

R_1 -C-C- R_2 together comprise a 5-7 membered cyclic ring, optionally comprising one or more heteroatoms selected from N, S, or non-peroxide O, and optionally substituted with $(C_1$ - C_4)alkyl, OH or halo;

R_3 is H or $(C_1$ - C_4)alkyl;

R_4 is H or $CH_2CO_2(C_1$ - C_4)alkyl;

R_5 is H, OH or absent;

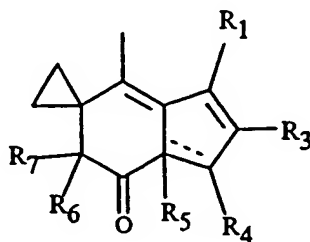
R_6 is $(C_1$ - C_4)alkyl or absent;

R_7 is OH; or

R_6 and R_7 together are ethylenedioxy; and

the bonds represented by ----- are individually present or absent; or
a pharmaceutically acceptable salt thereof.

35. A compound of the formula



where R_1 is H;

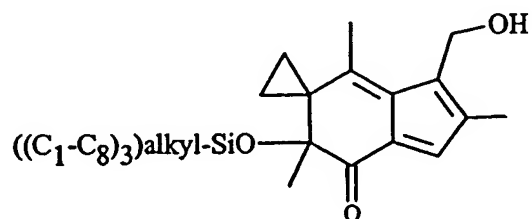
R_3 is (C_1-C_4) alkyl or H;
 R_4 is $CH_2CO_2(C_1-C_4)$ alkyl or H;
 R_5 is H, OH or absent;
 R_6 is H or absent;
 R_7 is OH; or
 R_6 and R_7 together are ethylenedioxy; and
 the bond represented by ----- is present or absent; or
 a pharmaceutically acceptable salt thereof.

36. A compound of claim 35 wherein R_1 , R_3 and R_4 are H, the bond represented by ----- is present; and R_5 is absent.

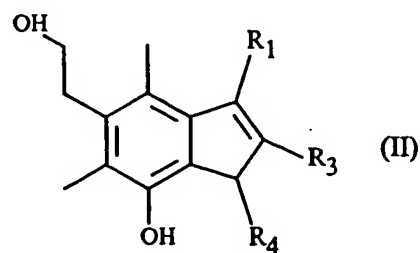
37. A compound of claim 36 wherein R_6 is H and R_7 is OH.

38. A compound of claim 36 wherein R_6 and R_7 are ethylenedioxy.

39. A compound of the formula



40. A compound of the formula (II):



where R_1 is $(C_1-C_4)\text{alkyl-Z}$ where Z is OH or halo, or $-S-(C_5-C_{12})\text{aryl}$ wherein aryl is optionally substituted with OH, halo or $(C_1-C_4)\text{alkyl}$;

R_3 is $(C_1-C_4)\text{alkyl}$; and

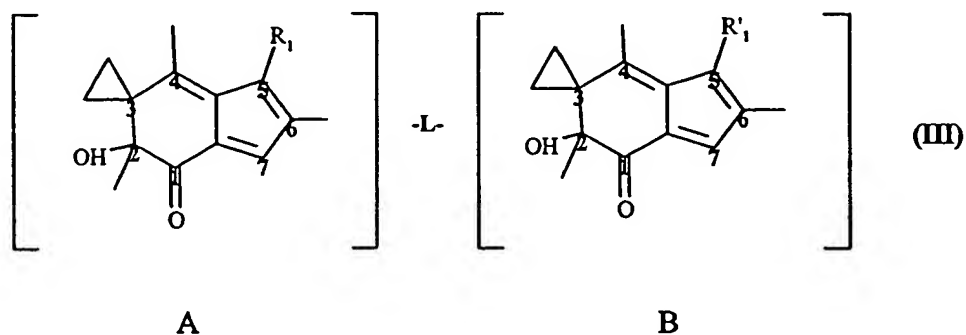
R_4 is $-S-(CH_2)_n\text{-COOH}$ wherein n is 1-4; or $-S-(C_5-C_{12})\text{aryl}$ wherein aryl is optionally substituted with OH, halo or $(C_1-C_4)\text{alkyl}$; or

a pharmaceutically acceptable salt thereof.

41. The compound of claim 40 wherein R_3 is $-\text{CH}_3$.

42. The compound of claim 40 wherein R_1 and R_4 are $-S\text{-phenyl}$.

43. A compound of the formula (III):



where L is a linker covalently attaching compounds A and B via the 3-, 5- or 7- position of one compound and the 3- or 7-position of the other compound; and

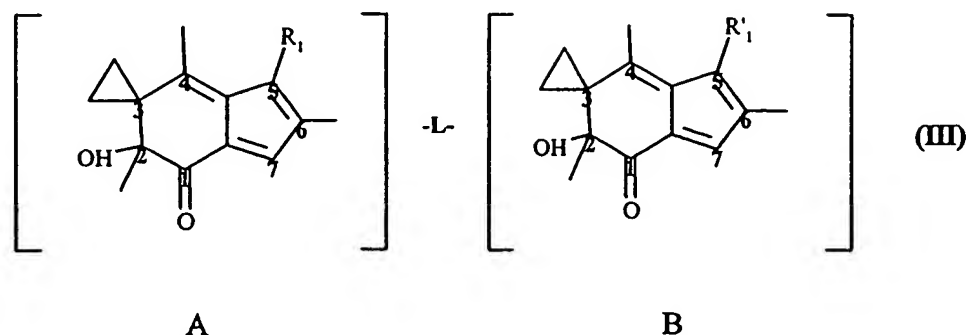
R_1 and R'_1 are independently $-(CH_2)_n\text{-Z}$ where n is 1-4, and Z is halo or OH; or absent.

44. The compound of claim 43 wherein is $-(CH_2)_m\text{-O-(CH}_2)_n\text{-}$, where m and n are independently 1-4.

45. The compound of claim 43 wherein is $-\text{CH}_2\text{-S-CH}_2\text{C(O)-O-(CH}_2)_2\text{-O-C(O)CH}_2\text{-S-CH}_2\text{-}$.

47. The compound of claim 43 wherein A and B are linked via the 5-position and 3-position.

48. The compound of claim 43 wherein A and B are linked via the 5-position and 7-position.
49. A compound of the formula (III):



where L is $-(CH_2)_m-O-(CH_2)_n-$, where m and n are independently 1-4, or $-CH_2-S-CH_2C(O)-O-(CH_2)_2-O-C(O)CH_2-S-CH_2-$, covalently attaching compounds A and B via the 5-positions; and

R_1 and R'_1 are independently $-(CH_2)_n-Z$ where n is 1-4, and Z is halo or OH; or absent.

50. A pharmaceutical unit dosage form comprising an effective tumor growth inhibiting amount of the compound of claims 1, 26, 34, 35, 39, 40, 43 or 49 in combination with a pharmaceutically-acceptable carrier.
51. The pharmaceutical unit dosage form of claim 50 wherein the carrier is a liquid vehicle.
52. The pharmaceutical unit dosage form of claim 51 wherein the carrier is adapted for parenteral administration.
53. The pharmaceutical unit dosage form of claim 52 wherein the carrier is adapted for intravenous administration.
54. The pharmaceutical unit dosage form of claim 50 wherein the carrier is adapted for oral administration.

55. The pharmaceutical unit dosage form of claim 54, which is a tablet or a capsule.
56. A therapeutic method of inhibiting tumor cell growth in a subject in need of such therapy comprising administering a therapeutic amount of the compound of claims 1, 26, 34, 35, 39, 40, 43 or 49.
57. The therapeutic method of claim 55 wherein the subject is a human cancer patient.
58. The therapeutic method of claim 56 wherein the patient is afflicted with a solid tumor.